

### Remarks

Claims 1-20 were originally filed in this application.

Without prejudice or disclaimer, claims 9-20 remain withdrawn from consideration as being drawn to a non-elected invention.

Without prejudice or disclaimer, claims 2 and 6 were previously canceled.

Claims 21 and 22 were previously presented without introducing new matter.

Claims 4, 8, 21, and 22 are currently canceled without prejudice or disclaimer.

Claims 1, 3, 5, and 7 are currently amended without introducing new matter.

Support for the respective amendments to each of these claims can be found throughout the specification, claims, and drawings as originally filed. For example, FIG. 3 shows an embodiment of the present invention wherein a portion of water to be treated from a point of entry 14 is introduced into a storage vessel 12 by way of tee 24 and conduit 94 and another portion of water to be treated is introduced into an electrodeionization device 100 by way of tee 24 and conduit 28. FIG. 3 also exemplarily illustrates introducing treated water from the electrodeionization device into the storage vessel by way of conduits 92 and 94.

New claims 23, 24, 25, 26, 27, and 28 are presented without introducing new matter. Support for the respective subject matter of each of these claims can be found throughout the specification, claims, and drawings as originally filed. For example, the specification discusses providing water for a household activity such as bathing, laundering, and dishwashing at paragraph [0025] of the present application as published as U.S. Patent Application Publication No. 2005/0103723 A1. FIG. 3 and paragraph [0042] of the publication as published discusses circulating the concentrate stream.

Thus, claims 1, 3, 5, 7, and 23-28 are pending for examination, with claims 1 and 5 being independent claims.

## Rejections under 35 U.S.C. § 103

Claims 1, 3, 4, 5, 7, 8, 21, and 22 were rejected under 35 U.S.C. § 103(a) as would have been obvious over the disclosure of Tessier et al. in U.S. Patent No. 6,149,788 (hereinafter “Tessier”) in view of the disclosure of Deguchi et al. in U.S. Patent No. 6,344,122 B1 (hereinafter “Deguchi”).

Because claims 4, 8, 21, and 22 are currently canceled, the rejection as to these claims has been rendered moot.

Applicants disagree that the respective subject matter of each of claims 1, 3, 5, and 7 would have been obvious over Tessier in view of Deguchi.

Tessier discloses a method and apparatus for preventing scaling in electrodeionization units by inhibiting precipitation of scale-forming cations contained in the feed water. (Tessier at Abstract.) Tessier notes that scale on anion exchange membranes of the apparatus can be prevented by introducing water or aqueous solution into the concentrating compartment of the apparatus in an opposite direction relative to water being purified in the diluting compartment of the apparatus. In FIG. 2 (reproduced below), Tessier discloses that a supply stream into the electrode compartments comprises a bleed from a discharge stream 50 from a diluting compartment 32 of the apparatus. (Tessier at FIG. 2 and at column 5, lines 41 et seq.) Tessier, however, emphasizes that because the discharge stream 50 comprises water purified by the electrodeionization unit 10, the dissolved salt concentration of the discharge stream 50 is substantially non-existent and such water, if left unaltered, would be highly resistant to current flow therethrough. (Tessier et al. at column 5, lines 48-52.) To mitigate this problem, Tessier teaches injecting a saline solution of sodium chloride or potassium chloride, from storage vessel 45,<sup>1</sup> into the supply stream to increase the conductivity thereof. (Tessier at column 5, lines 53-59.)

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<sup>1</sup> In FIG. 2, the vessel is designated with reference 47 and the pump is designated with reference 45.

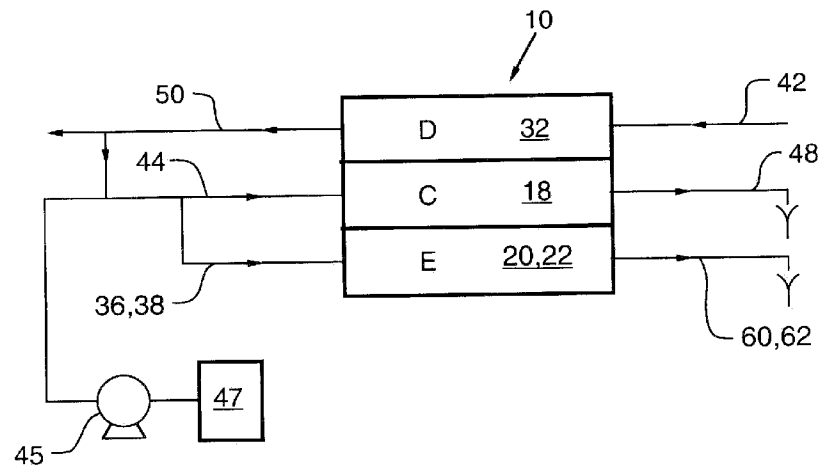


FIG. 2

Notably, Tessier does not teach introducing treated water from a depleting compartment and a cathode compartment into a storage vessel. Indeed, one skilled in the art would not have modified Tessier to introduce treated water from the cathode compartment into a storage vessel because, as noted above, Tessier requires adding a salt to the stream into the electrode compartments, and storing a stream with ionic species therein with water delivered to a point of use would defeat the Tessier's treatment intent. To that end, Tessier teaches that flowstream 38 from cathode compartment 18 is discharged, rather than stored. (Tessier at column 4, lines 17-20.)

Deguchi discloses an electrodeionization apparatus with an anode and a cathode, as well as cation-exchange membranes and anion-exchange membranes alternately arranged therebetween. (Deguchi at Abstract.) Deguchi does not disclose passing a water stream from a depleting compartment into a cathode compartment of the electrodeionization device. Deguchi also does not disclose storing the water from the cathode compartment in a storage vessel.

Further, neither of Tessier nor Deguchi discloses passing water from the cathode compartment into the depleting compartment. Rather, Tessier discloses discharging the stream from the electrode compartments. (Tessier at column 4, lines 55 et seq.)

Thus, even if the references could have been combined, any such combination would have failed to have each and every limitation in the particular manner claimed.

FIG. 3 of Tessier (reproduced below) is relied upon for a recycle stream. This cited figure of Tessier, however, does not disclose recycling water. Rather, FIG. 3, and at column 4, lines 17-20, Tessier discloses discharging the water from cathode and anode compartments. Indeed, the reliance on FIG. 3 as illustrating or suggesting a recycle is misplaced. Instead, Tessier discloses operating electrodeionization device 10 in series with reverse osmosis (RO) device 62. (Tessier at column 5, lines 63-65.) A permeate stream 66 from RO device 62 is connected to supply stream 42 for further treatment in the electrodeionization unit 10 and a bleed is taken from permeate stream 66 and connected to supply stream 44 for supply of aqueous liquid to concentrating compartment 18, anode compartment 20, and cathode compartment 22. (Tessier at column 6, lines 2-9.) Streams 48, 60, and 62 are discharged. (Tessier at column 4, lines 17-20 and lines 55-61.) Again, one skilled in the art would not have modified Tessier and introduced water from the cathode compartment into a storage vessel because water from the cathode compartment would have species migrated therein from the depleting compartment, which would have the same quality as untreated water.

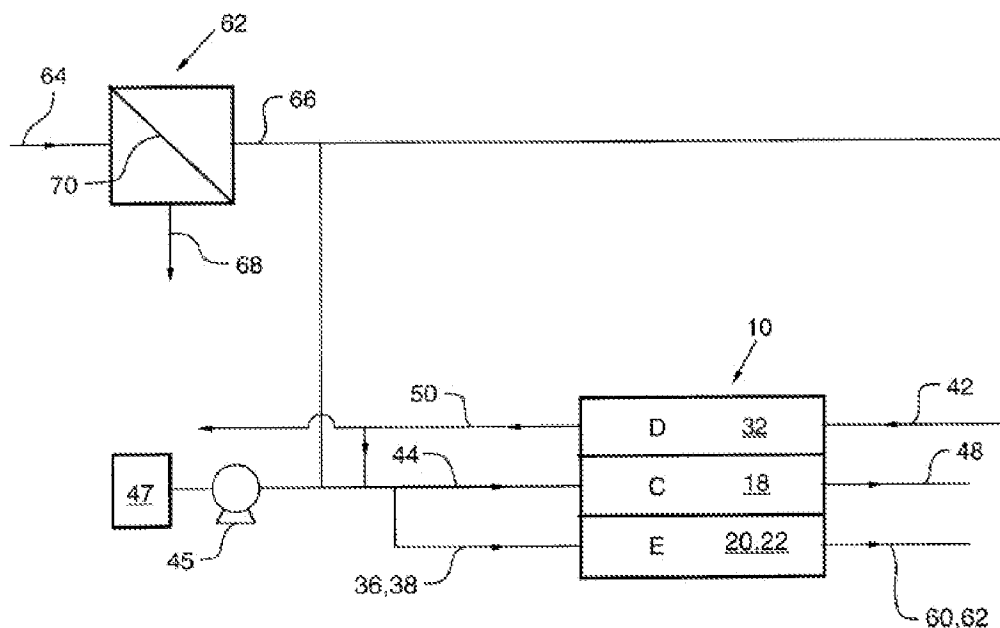


FIG.3

Therefore, the prima facie case of obviousness is improper because any alleged combination of Tessier and Deguchi would have failed to disclose each and every limitation in the manner respectively recited in independent claims 1 and 5, as well as claims 3 and 7, each of which respectively depends from these independent claims.

Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103 of claims 1, 3, 4, 5, 7, 8, 21, and 22 as would have been obvious over Tessier in view of Deguchi is respectfully requested.

#### New Claims 23-28

Each of claims 23-28 respectively depends from independent claims 1 and 5. The respective subject matter of each of these claims is patentable over Tessier in view of Deguchi for at least the reasons noted herein.

Entry and allowance of these claims is respectfully requested.

#### Conclusion

In view of the foregoing Amendments and Remarks, this application is in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, that the application is not in condition for allowance, the Examiner is requested to call Applicants' attorney at the telephone number listed below.

If this Response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this Response, including an extension fee, please charge any deficiency to Deposit Account No. 50/2762 (ref. no. I0168-708119).

Respectfully submitted,  
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